



# JOINT CONVENTION NEWS

JOINT CONVENTION ON THE SAFETY OF SPENT  
FUEL MANAGEMENT AND ON THE SAFETY OF  
RADIOACTIVE WASTE MANAGEMENT



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## INTRODUCTION & PURPOSE

### **PRESIDENT'S MESSAGE**

#### **REFLECTING ON THE 4TH REVIEW MEETING AND THE VIEW AHEAD TO THE 5TH REVIEW MEETING**

As the President of the 4th Review Meeting, I am delighted to deliver this message through the third Newsletter of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

I would like to sincerely acknowledge all Contracting Parties for their endeavours in achieving a high level of safety in the management of radioactive waste and spent fuel, and would like to give credit to those responsible for successfully hosting the 4th Joint Convention Review Meeting, held in May this year, which contained the largest number of Contracting Parties to date.

Through the process of the 4th Review Meeting, collectively, participants not only identified and shared good practices and challenges amongst themselves; but they also discussed common international challenges to be taken into consideration. As a result of the review process, the following topics have come to light.

First, the benefit of establishing a more cooperative framework between the Joint Convention and Convention on Nuclear Safety was addressed. The Open-ended Working Group (OEWG) proposals highlighted discussions on the need to enhance the review process of the Joint Convention. One of the ways seen to address this is the establishment of a cooperative framework between the Joint Convention and Convention on Nuclear Safety. To this effect, a teleconference between both the Joint Convention and Convention on Nuclear Safety leadership was held, resulting in both leaderships agreeing to establish joint meetings as a tool for implementing such a framework.

Second, spent fuel management following the Fukushima Accident is an area where many Contracting Parties asserted further attention was needed. This was highlighted through the post-Fukushima lessons-learned activity at the last Review Meeting, whereby each Contracting Party reported on tests performed on the "structural integrity of spent fuel storage facilities" and the "adequate coolability of spent fuel following seismic activities."

Other topics of importance raised during 4th Review Meeting in relation to spent fuel management included: the interface between safety and security; resolution of spent fuel management policy and strategy; and funding for spent fuel management. It was noted that discussions on these topics should be focused on achieving a higher level of safety on spent fuel under the framework of the Joint Convention.

I am committed to supporting continuous discussion on all of the aforementioned topics raised during the 4th Review Meeting, through the Joint Convention process. Additionally, I am pleased to confirm that various opportunities will be presented for Contracting Parties to share their views and opinions in the period leading up to the 5th Review Meeting.

In closing, I again express my sincere gratitude for the presence of the delegations during the 4th Review Meeting, and I ask your continuous contribution to strengthening the global safety regime on radioactive waste and spent fuel in the future.



**Chang Sun Kang**

President

Fourth Review Meeting of the Joint Convention

## PAST EVENTS & MEETINGS

### INTERNATIONAL WORKSHOP ON HIGH LEVEL WASTE & SPENT FUEL MANAGEMENT, 2011

The International Workshop on High Level Radioactive Waste and Spent Fuel Management- Storage and Disposal was held in Stockholm, Sweden, from 29 November to 1 December 2011. The workshop was hosted by the Swedish Radiation Safety Authority (SSM).

The purpose of the workshop was to discuss Member States' strategies regarding high level radioactive waste and spent fuel management, in particular focusing on storage and disposal, as well as to discuss the safety implications and sustainability of extended periods of storage.

Although significant progress has been made by Member States in safely managing their radioactive waste, efforts are still needed in a number of countries to develop a comprehensive national strategy that includes disposal and to strengthen the national infrastructure accordingly. One of the greatest challenges in the management of spent fuel and radioactive waste is the development and implementation of disposal strategies. In particular, geological disposal of high level waste and spent fuel remains a topic of concern and its implementation has been delayed in many countries.

Storage is a necessary step in the overall management of radioactive waste and spent fuel. In recent years, storage facilities have had their lifetimes extended up to 100 years and beyond. Serious consideration has been given, in some countries, to the use of such storage as a long-term management option.

The workshop discussed several topics related to management strategies, storage and disposal of high level radioactive waste and spent fuel. A synthesis can be found on the

International Atomic Energy Agency (IAEA) website:

<http://www-ns.iaea.org/downloads/rw/waste-safety/workshops/hlw-sf-workshop-sweden2011-synthesis.pdf>

### OFFICERS MEETING

On 12 and 13 May 2012, immediately prior to the commencement of the 4th Review Meeting of the Joint Convention (JC), the elected Officers convened at the Headquarters of the International Atomic Energy Agency (IAEA) in Vienna to discuss several issues related to the objectives of the upcoming Country Group sessions.

In accordance with the proposed agenda, the IAEA Secretariat presented the latest updates on the organization of the JC Review Meeting and feedback following the 5th Review Meeting of the Convention on Nuclear Safety (CNS). The Secretariat presented the roles and responsibilities of the officers, particularly for the benefit of the new officers and provided some new information on the timing of the sessions, the format and structure of the Rapporteur's Reports, and the Summary Report of the Review Meeting, respectively.

In separate Working Groups, one for each Country Group, the corresponding Officers discussed the specificities of their working methods and tried to find common views on the understanding of the terms "Highlights," "Challenges," and "Good practices" which are key elements of the Rapporteur's Reports. The results were then shared and further discussed with the other Country Group Officers. There was consensus that a clear and consistent understanding of these terms is vital for the assessments in the review process.





## FOURTH REVIEW MEETING

The 4th Review Meeting of the Contracting Parties pursuant to Article 30 of the Joint Convention was held in Vienna from 14 to 23 May 2012. The President of the Review Meeting was Mr. Chang Sun Kang, Chairman and Chief Regulatory Officer of the Nuclear Safety and Security Commission, Republic of Korea. The Vice-President was Ms. Olena Mykolaichuk, Chairperson of the State Nuclear Regulatory Inspectorate of Ukraine. Mr. Andy Hall, who had been elected second Vice-President of the review process, was unable to carry out this role during the Review Meeting and was substituted by Mr. Mark Bassett, Deputy Chief Inspector of Nuclear Installations, United Kingdom, for the duration of the Meeting.

Fifty-four Contracting Parties participated in the Review Meeting. Among these, eight Contracting Parties participated for the first time. Four Contracting Parties did not provide a technical presentation of their respective National Reports. Nine Contracting Parties

did not participate in the Review Meeting. Furthermore, six Contracting Parties had not submitted a National Report. The Nuclear Energy Agency of the Organization for Economic Cooperation and Development (OECD) was present as observer.

Since the 3rd Review Meeting, various Contracting Parties have made good progress and had significant accomplishments in implementing their national programmes. The following items were specifically addressed in National Reports and oral presentations:

- Development of a comprehensive regulatory framework;
- The effective independence of the regulatory body;
- Implementation of the strategies with visible milestones;
- Funding to secure waste management;
- Education and recruitment of competent staff and employees; and
- Geological repositories for high level waste.

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Following the Fukushima Daiichi Nuclear Power Plant accident, many Contracting Parties have carried out an immediate initial analysis for their spent fuel and waste management facilities and have analyzed their severe accident management strategies to identify any deficiencies. Particular attention was given to the issue of the safety of spent fuel stored in pools. In most cases, the initial analyses indicated that no immediate action was warranted. More detailed assessments are planned.

Despite a large diversity at the national level, most Contracting Parties reported good progress in maintaining, improving, and in implementing their legal and regulatory frameworks. The long term management of spent fuel and high level radioactive waste remains a challenging and difficult topic with considerable areas for improvement. All Contracting Parties agreed that such improvement is a continuous process.

It was recognized that good and prompt communication with the public and the need to ensure the public is well informed are crucial and essential elements on the management of spent fuel and radioactive waste. The 4th Review Meeting also reaffirmed the importance of taking spent fuel management and radioactive waste management into account from the very beginning of any nuclear activities, such as in expanding nuclear power programmes.

Although significant progress has been made since the last Review Meeting, challenges remain, including the following:

- Ensuring the robustness of the review process;
- Spent fuel storage capacity; and
- Delivery of disposal options.

The Contracting Parties agreed that the National Reports to the next Review Meeting should include the following issues:

- Management of disused sealed sources;
- Safety implications of very long storage periods and delayed disposal of spent fuel and radioactive waste;
- International cooperation in finding solutions for the long term management and disposal of different types of radioactive waste and/or spent fuel; and
- Progress on lessons learned from the Fukushima Nuclear Power Plant accident, in particular regarding strategies for spent fuel management.

During the meeting, the Open-ended Working Group discussed several proposals for the improvement of future review meetings, as well as other arrangements to ensure continuity between review meetings and facilitate coherence between the review processes of the Joint Convention and of the Convention on Nuclear Safety.

More details on the course and on the results of the 4th Review Meeting can be found in the Summary Report which is published on the Joint Convention website:

<http://www-ns.iaea.org/conventions/results-meetings.asp?s=6&l=40>

The report of the Open-Ended Working Group is provided as an annex to that Summary Report.

## CONVENTION ON NUCLEAR SAFETY AND JOINT CONVENTION LEADERS MEETING

During the 4th Review Meeting, the Open-ended Working Group (OEWG) discussed Proposal 8 of the Joint Convention (JC) Contracting Parties. Proposal 8 is the creation of a mechanism to ensure coherence between the rules governing the review process of the JC and those of the Convention on Nuclear Safety (CNS). The OEWG recommended that the leadership of the JC should invite the leadership of the 5th Review Meeting of the CNS to discuss improvements to increase the effectiveness of each Convention.

Following this recommendation, the JC leadership invited the CNS leadership to hold such discussions. An informal teleconference meeting was held on 18 July 2012. Another CNS and JC leadership meeting was held in Vienna on 19 September 2012. The leaders of both Conventions supported the proposal to ensure that effective communication is maintained between the officers of both Conventions. They agreed to meet regularly, to discuss the lessons learned from the implementation of the Rules and Guidelines of both Conventions and to discuss any reasonable improvements should these be considered needed. In addition, the agenda should include other subjects of common interest, such as safety-security interface and Fukushima impacts. The next meeting is to be held during the time of the Inter-sessional Meeting of the JC and the Turnover Officers Meeting of the CNS in April 2013.

## JOINT CONVENTION GENERAL COMMITTEE MEETING, SEPTEMBER 2012

The first General Committee (GC) Meeting since the 4th Review Meeting in May this year, took place on 19 September 2012, at the International Atomic Energy Agency Headquarters. The aim of the meeting was for the Secretariat to report on follow-up actions arising from the Review Meeting and for GC members to discuss ongoing plans. The GC consists of the President of the Review Meeting, the Vice-Presidents and the Chairperson of each Country Group. The agenda of the meeting included the following items:

- Actions of the Secretariat after the 4th Review Meeting;
- Results of the 2nd Extraordinary Meeting of the Convention on Nuclear Safety (CNS);
- Interaction with the CNS leadership;
- Relationship between the Rules and Guidelines of the CNS and the Joint Convention (JC);
- Proposals for improvement of the Review Process and the organization of the Inter-sessional meeting on the matter; and
- Future training of JC Officers.

## REGIONAL MEETING ON THE JOINT CONVENTION, OCTOBER 2012

The Regional Meeting on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management was held in Cape Town, South Africa, from 16 to 18 October 2012. Its purpose was to inform Members States of the International Atomic Energy Agency (IAEA) of the African Region on the benefits of being Contracting Parties (CPs) to this Convention. The meeting was organized by the IAEA with the Government of South Africa, in collaboration with the National Nuclear Regulator (NNR) of South Africa.

The meeting was chaired by Mr. Adriaan Joubert from the NNR of South Africa and covered a range of topics over five sessions, such as, but not limited to:

- Introduction to the Joint Convention: Need for the Joint Convention, obligations for participation, benefits and expected outcomes;
- Safety provisions, accession procedures and costs;
- Presentations of delegates from Member States of the Africa region addressing their national legislative framework and status of radioactive waste management/management of disused sources and planned or new nuclear/waste management facilities;
- Preparations of the National Report for peer review of CPs;
- Experiences of CPs present at the meeting; and
- Education and training opportunities in the field of Safety of Radioactive Waste and Spent Fuel Management.

The meeting was attended by fifteen participants from the Region (Burkina Faso, Côte d'Ivoire, Egypt, Gabon, Ghana, Kenya, Madagascar, Mauritania, Mauritius, Mozambique, Nigeria, Sudan, Tunisia, Uganda and United Republic of Tanzania) and three invited speakers from Contracting Parties (Lithuania, Portugal and USA). In addition, two representatives from the NNR of South Africa also took part in the meeting.

The Secretariat would like to thank all participants and invited speakers, particularly our hosts from the NNR of South Africa for their significant contribution to what was a very successful meeting.



## UPCOMING EVENTS & MEETINGS

### INTERNATIONAL EXPERTS' MEETING ON DECOMMISSIONING & REMEDIATION AFTER A NUCLEAR ACCIDENT, 28 JANUARY – 1 FEBRUARY 2013

The International Experts' Meeting (IEM) on Decommissioning and Remediation after a Nuclear Accident will be held in Vienna, Austria, from 28 January to 1 February 2013. The International Atomic Energy Agency (IAEA) Secretariat was requested to organize this meeting under the "IAEA Action Plan on Nuclear Safety." The meeting will focus on the complex technical, societal, environmental and economic issues that need to be considered for decommissioning and remediation activities after a nuclear accident. The objective of the meeting is to assist Member States in preparing for and being able to manage the consequences resulting from a nuclear accident. No registration fee is charged.

Please visit the IEM webpage regularly for new information regarding the meeting:

<http://www-pub.iaea.org/iaeameetings/44453/International-Experts-Meeting-on-Decommissioning-and-Remediation-after-a-Nuclear-Accident>

### INTER-SESSIONAL MEETING OF CONTRACTING PARTIES, APRIL 2013

The Secretariat will host an Inter-sessional Meeting of Contracting Parties at its Headquarters in Vienna during the week of April 15, 2013. This meeting was recommended by the Open-ended Working Group (OEWG) and is based on the following two proposals:

1. Proposal 3 (c), a proposed process to continue discussions and apply improvements prior to the 5th Review Meeting Proposal; and
2. Proposal 6, intended to enhance the continuity and ongoing dialogue between Review Meetings.

Proposal 3 (c) and Proposal 6 were both submitted to the Secretariat by Contracting Parties before the 4th Review Meeting. The aim of the Inter-sessional Meeting is to continue discussions and apply improvements as well as to enhance the continuity and ongoing dialogue between Review Meetings.

The recommendations of the OEWG are laid down in the Annex to the Summary Report of the 4th Review Meeting:

<http://www-ns.iaea.org/downloads/rw/conventions/fourth-review-meeting/summary-report-english.pdf>

## TOPICS OF INTEREST

### REVISED INFCIRC DOCUMENTS AVAILABLE ON THE JOINT CONVENTION WEB SITE

The three Information Circular (INFCIRC) documents governing the Joint Convention (JC) review process were revised by decision of the Contracting Parties during the 4th Review Meeting in May 2012. The revisions were initiated by different Contracting Parties and discussed in the Open-ended Working Group.

The revision of INFCIRC/602, *Rules of Procedures and Financial Rules* is related to the changed role of the Coordinator during the Review Meeting.

INFCIRC/603, *Guidelines regarding the Review Process* was revised to clarify the status and functions of the National Contact Points by inclusion of their role in the Guidelines to the JC. In addition, each national contact shall be invited, if they wish, to participate with Officers of the JC in the workshop of incoming and outgoing Officers after the Organizational Meeting, to enhance the continuity of expertise and knowledge in the JC review process.

INFCIRC/604, *Guidelines regarding the Form and Structure of National Reports* was amended in order to consider the status of disused sealed sources under the JC and the way to improve the report on their safe management through the review mechanisms, in order to facilitate information and experience sharing as well as peer reviews of this topic.

The revised guidelines are now available on the JC website:

<http://goto.iaea.org/JointConvention>



*Participants at the Regional Meeting on the Joint Convention in South Africa*

## CANADA – STATUS OF PLAN FOR LONG-TERM MANAGEMENT OF USED NUCLEAR FUEL

Canada's Fourth National Report described the Nuclear Waste Management Organization's (NWMO) progress in implementing Canada's Adaptive Phased Management (APM) plan for the safe, secure long-term management of Canada's used nuclear fuel. This plan involves the long-term containment and isolation of used nuclear fuel in a deep geological repository. The plan was developed in dialogue with Canadians to reflect the features considered important.

Canada's plan emerged from an extensive period of dialogue and study of options from 2002 to 2005 involving thousands of citizens, specialists and Aboriginal people. On June 14, 2007, the Government of Canada, based on NWMO's recommendations, selected Adaptive Phased Management as the best plan for Canada for safeguarding people and the environment. In 2007 NWMO established its strategic objectives for implementing Canada's plan and in 2008 and 2009 engaged many interested individuals and organizations in the development of a process for selecting a site for the deep geological repository and associated facilities.

The site selection process commenced in May 2010; the first step in a multi-year process was to identify an informed and willing host community for the project. NWMO extended

a general invitation to communities to learn about the project and consider potential interest in hosting the project. To date, over twenty communities are engaged in different phases of early learning and exploring potential interest. Some communities are in early phases of learning about the project (Step 1); others are awaiting results of initial screenings (Step 2); and eight communities (as of August 2012) have elected to advance to Step 3 for the first phase of Preliminary Assessments. These Preliminary Assessments, presently underway, involve desk-top assessments of the potential suitability of communities and sites for hosting the project. The expression of interest phase was open to communities wishing to enter the siting process through to September 30, 2012.

Engineering designs and safety case development are well underway for the repository and used fuel containers and transportation systems. Supporting NWMO's work program requires a continuing high level of joint research, development and demonstration activities of repository technology, assessment methods and approach to engagement with our international partners in Sweden, Finland, Switzerland and France.

More information about the APM siting process is available at:

<http://www.nwmo.ca/sitingprocess>

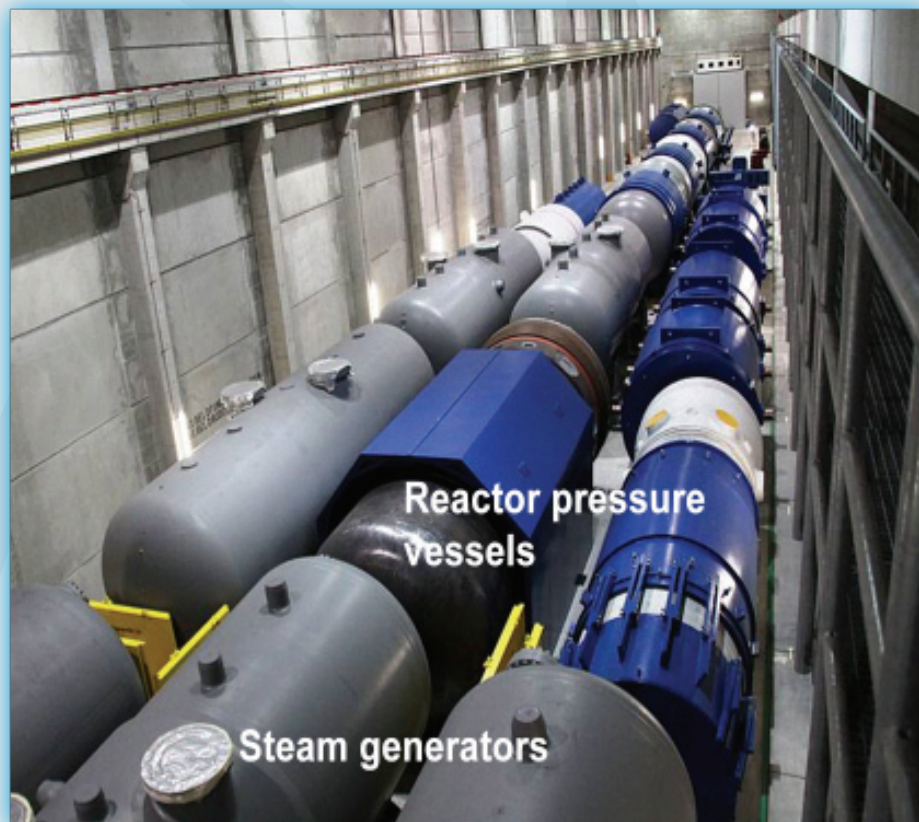


## DECAY STORAGE IN GERMANY

Decay storage is a concept that is pursued for the management of large components (such as reactor pressure vessels, reactor internals, steam generators or other large containers) resulting from decommissioning of several nuclear power plants in Germany. These components are stored for several decades to allow time for radioactive decay, for reduction of activity contents and dose rates, with the ultimate goal of reaching clearance levels (free release of the material) or to be able to manage the material as radioactive waste of a lower category.

Currently, this method has been implemented in large scale at the Nuclear Power Plant Greifswald at the large interim storage facility ZLN. Steam generators are stored there for a limited amount of time until they will be processed by large band saws in a segmenting area at the ZLN.

The calculation of the activity decay shows that the time for reaching clearance levels also in the part of the reactor pressure vessel with the highest activation can be estimated between 60 to 70 years, while the reactor internals would require some decades more, according to their activation level. The implementation of this method has resulted in reduction of doses, amount of radioactive waste and costs for the decommissioning project of the Nuclear Power Plant Greifswald. The generalization of these results to other decommissioning projects has been dealt with in a research project carried out on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. It showed that there is a large potential for reducing radioactive waste, doses and costs, if a suitable storage facility is available that can be used for several decades.





## EURATOM DIRECTIVE ON SPENT FUEL AND RADIOACTIVE WASTE, 2011

After the Directives on ionizing radiation and emergency and the 2009 Directive on nuclear safety, the Directive on establishing a community framework for the responsible and safe management of spent fuel and radioactive waste has been adopted by the Council of the European Union (EU) on 19 July 2011. The initial proposal was made by the European Nuclear Safety Regulators Group (ENSREG).

The 27 EU Member States must transpose the text of the Directive into their national law by 23 August 2013.

### *A text based on the main internationally endorsed principles*

The Joint Convention played a great role in inspiring the Directive, notably on key provisions such as those on an adequate national framework or a competent regulatory authority. In fact, the importance of the Joint Convention is recognized in the preamble of the Directive: "The Joint Convention, concluded under the auspices of the IAEA, represents an incentive instrument which aims at achieving and maintaining a high level of safety worldwide in spent fuel and radioactive waste management through the enhancement of national measures and international cooperation." Several references to the Joint Convention are made throughout the text.

The Directive reaffirms:

- The ultimate responsibility of Member States for management of the spent fuel and radioactive waste to establish and maintain national policies and frameworks and to assure the needed resources and transparency, making clear that radioactive waste shall be disposed of in the Member State in which it was generated;
- The prime responsibility of the license holder for the safety of spent fuel and radioactive waste management; and

- The necessary independence of national regulatory authorities.

### *Nuclear fuel cycle policies*

Pursuant to the Directive, spent fuel can be regarded either as a valuable resource that may be reprocessed or as radioactive waste that is destined for direct disposal.

Whatever option is chosen, the disposal of high level waste, separated at reprocessing, or of spent fuel regarded as waste should be considered. The storage of radioactive waste, including long-term storage, is viewed as an interim solution but not an alternative to disposal.

Member States must establish and implement national programmes for management of spent fuel and/or radioactive waste from generation to disposal.

### *Public information and involvement*

According to the text, necessary information on the management of spent fuel and radioactive waste must be made available to workers and the general public. The public must be given the necessary opportunities to participate effectively in the decision-making process in accordance with national legislation and international obligations.

### *International peer reviews*

Pursuant to other provisions, peer reviews shall be invited periodically by Member States and at least every 10 years to evaluate the national framework, competent regulatory authority, the national programme and its implementation. The outcomes of peer reviews shall be reported to the EU Commission and the other Member States. By 23 August 2015, the first national reports on the implementation of the Directive shall be submitted to the EU Commission.

Text of the Directive:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:199:0048:0056:EN:PDF>

## STATISTICS



### FOUR NEW CONTRACTING PARTIES

The Joint Convention consists of 64 Contracting Parties (CPs) as of August 2012 (subject to the entry into force). Four new CPs (Mauritania, Saudi Arabia, Bosnia and Herzegovina and Chile) have joined since the last issue of the Joint Convention Newsletter in September 2011.

<b>Recently Joined Contracting Parties</b>	
<i>Continent</i>	<i>Country</i>
<b>Africa</b>	Mauritania
<b>Asia</b>	Saudi Arabia
<b>Europa</b>	Bosnia and Herzegovina
<b>South America</b>	Chile

## FIFTH REVIEW PROCESS SCHEDULE

**12-13 MAY 2014**

Organizational Meeting for the Fifth Review Meeting

**10 OCTOBER 2014**

Deadline for Submission of National Reports

**10 FEBRUARY 2015**

Deadline for Submission of Questions and Comments on National Reports

**10 APRIL 2015**

Deadline for Submission of Answers for National Reports

**11 MAY 2015**

Commencement of the Fifth Review Meeting



*Officers and Agency Officials at the Officers Meeting*

# JOINT CONVENTION NEWS

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*Thank you to the Contracting Parties who contributed to this issue of Joint Convention News.*